

Pesticide Safety *Information*

Series A

Worker Health and Safety Branch

A-5

RESPIRATORY PROTECTION

In Agricultural Settings

General Information:

This leaflet provides basic information to pesticide users on respiratory protection and helps you to comply with California's respiratory protection regulations (Title 3 California Code of Regulations section 6738).

Regulations require employers to have a written respiratory protection program at the work site. The program must cover selection, fitting, use, inspection, maintenance and cleaning of respirators. Adoption of the content of this Pesticide Safety Information Series (PSIS) leaflet meets the minimum requirements for the written program. Appendix 1 contains sample written procedures.

Conditions Requiring Respiratory Protection:

Engineering controls offer the best way to control airborne hazards. Examples of engineering controls include enclosure or confinement of the operation generating the hazard, ventilation to keep the airborne concentration below accepted levels, or substitution of less toxic materials. In some situations, the use of engineering controls, such as closed systems or enclosed cabs, may exempt the worker from wearing respiratory protection. (PSIS A-3 discusses these exemptions.) Often, pesticide use creates a hazardous working environment. If hazardous pesticide concentrations cannot be controlled in other ways, you need to use personal respiratory protection. You may also need respiratory protection in emergency situations where the exposure is relatively brief.

Federal and state laws require pesticide labels to contain safety precautions. The label will include requirements for respiratory protection, if needed. If you are exposed to mist or spray, respiratory

protection may be necessary when applying products with labels that recommend "avoid spray".

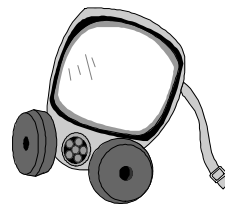
Your employer must provide personal respiratory equipment required and you must use the equipment provided. Your employer must provide respiratory equipment approved for the particular exposure by the National Institute for Occupational Safety and Health (NIOSH).

Training:

You must receive training initially and annually in the need, use, sanitary care and limitations of the respiratory equipment you may have to use.

Selection and Fitting of Respirators:

Proper respirator selection is critical. Pesticide labels are the primary source of information on the type of respiratory protection needed. With information from the label, a safety equipment supplier will be able to provide your employer with the correct type of respiratory equipment. When exposed to pesticides that irritate the eyes, nose or throat, wear a full-face respirator for protection from irritants. If using air-purifying respirators, the air-purifying element (filter or cartridge) must be approved for use against the specific hazard by NIOSH. For additional help in the selection process, consult one of the sources listed below.



Respirators come in different sizes to accommodate different sized faces. Every respirator wearer must receive training on fitting and testing the respiratory equipment they use. When fitting a respirator, wear it in normal, uncontaminated air, to get accustomed to it. Then wear the respirator in a test atmosphere.

Maintenance and Sanitation:

Your employer must repair or replace respiratory equipment as necessary due to wear and deterioration. A trained person should regularly clean and inspect frequently used respirators. Regular cleaning and inspection prolongs the useful life and assures the wearer that the respirator works as efficiently as possible. For personal hygiene and communicable disease considerations, do not pass respirators from one individual to another without cleaning and sanitizing. Avoid this situation by assigning a respirator to each wearer.

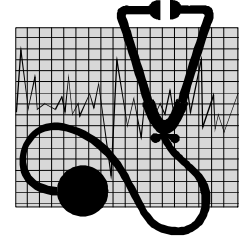
When not in use, store respirators so the facepiece does not become deformed and is protected from excess exposure to dust, sunlight, extreme temperatures, moisture or damaging chemicals. All the above factors will severely limit the useful life of the respirator. Plastic containers with lids provide adequate storage for respirators.

Prior to use, inspect respirators maintained for emergency situations, such as canister gas masks and self-contained breathing apparatus (SCBA). If not used within a month, inspect and test this emergency equipment to assure reliable operation when needed. During an inspection, look to ensure cleanliness and that all components are present and operable.

Medical Evaluation:

Breathing through a respirator may require more effort than normal breathing. For some individuals, this effort is extremely difficult for various reasons. If required to wear a respirator, your employer must inform you that some medical limitations may interfere with use of respiratory protection. Some of those medical limitations include high blood pressure, heart disease, lung disease or a perforated ear drum. If you have such a condition, a physician must examine you to determine if you are physically able to perform assigned work using respiratory equipment. The physician should determine what health and physical conditions are pertinent. Your employer must follow the physician's written recommendation concerning your capability to wear respiratory equipment.

Your employer must keep written evidence on file that you were informed. Before an employee is required to perform any work requiring respiratory protection, a record of the physician's evaluation must be on file for those employees who indicate a possible medical limitation.

**Limitations:**

Respirators have limitations. They cannot adequately protect a person from all contaminants under all conditions. In general, if properly fitted and worn, the typical half-face, air-purifying respirator provides a protection factor of 10. A full-face, air-purifying respirator provides a protection factor of 50. The protection factor measures the protection provided to the wearer and indicates the efficiency of the respirator in reducing airborne contaminants inhaled.

Air-purifying respirator cartridges or canisters have a limited capacity to protect against toxic gases and vapors in the air. Theoretically, cartridges and canisters are effective against toxic vapors and gases until their capacity is exhausted; then the vapor or gas passes through the cartridge or canister and into the inside of the respirator. If you detect an odor or taste, or feel eye or throat irritation, leave the hazardous area immediately; go to a safe area that contains uncontaminated air. Then inspect your respirator for any physical failure. You must change the respirator cartridge or canister if you detect no physical problems. Because canisters and cartridges have a limited capacity and many pesticides lack warning properties (odor or irritation), DPR regulations require that air-purifying elements be replaced according to the most frequent of the following:

- pesticide labeling directions
- equipment manufacturer's recommendations
- at first indication of odor, taste or irritation
- at the end of each day's work period.

Air purifying respirators (canister or cartridge) do not provide oxygen to the wearer. Do not use these respirators in situations where the oxygen content of

the air might be low. In low oxygen situations, use equipment capable of providing an independent source of breathing quality air, such as a self-contained breathing apparatus (SCBA) or an air-line respirator.

Employees with facial hair cannot work where respiratory protection is required unless provided with a respirator that does not require a face-to-facepiece seal for proper operation.

Respirators only protect from inhalation exposure. For many situations when pesticides are used, protection from dermal exposure may also be necessary.

Information Sources:

Additional information can be obtained from several organizations and individuals. Some sources are listed for your use.

1. Safety equipment retailers - see local telephone directory yellow pages.
2. Occupational safety and health consultants.
3. Department of Pesticide Regulation, Worker Health and Safety Branch, 830 K Street, Sacramento, California 95814, (916) 445-4222.
4. Cal/OSHA Consultation Service - see listing under State Government Offices, Industrial Relations Department, in local telephone directory.
5. County Agricultural Commissioner - see listing under County Government Offices, Agricultural Commissioner.
6. County Health Department.
7. Insurance carriers.

This leaflet assists readers in understanding pesticide regulations. It is not a legal document. The legal reference is found in the California Code of Regulations, Title 3. The words "must" and "should" used in the text are not the same. The word "must" means the action is required and comes from California regulations. The word "should" means additional handling practices that are recommended to further reduce exposure.

**SAMPLE WRITTEN SITE SPECIFIC OPERATING PROCEDURES
FOR THE SELECTION AND USE OF RESPIRATORS**

RESPIRATORY PROTECTION PROGRAM

Company Name_____

Address_____

Person Responsible for Program_____

I. Selection of Respirators

For the following pesticide related uses, we require respirator use:

We base our selection of respirators on:

Personnel and selected respirator(s)

Employee

Respirator

_____	_____
_____	_____
_____	_____

Additionally, we have an area(s) or time(s) where emergency respiratory protection is necessary.

For this use, we selected the following respirator(s):

II. Use of Respirators

The above employees received respiratory protection training. _____ (instructor name)
conducted the initial training on _____ (date) _____. Attached is a list of more recent training.

On a periodic basis, _____ (name) _____ conducts routine inspections of respiratory gear.
Inspection of equipment kept for emergency occurs at least monthly. A record of the most recent
inspection is kept on the respirator or its storage container.

EMPLOYEE STATEMENT OF MEDICAL CONDITION

(Print Employee Name)

In accordance of Section 6738 of the California Code of Regulations, to the best of my knowledge, I have (), have no () medical conditions which would interfere with wearing a respirator while engaged in potential pesticide exposure situations. I understand that heart disease, high blood pressure, lung disease or presence of a perforated ear drum require specific medical evaluation by a physician before safe use of a respirator can be determined.

(Signature of Employee)

(Date)

REPORT OF MEDICAL EVALUATION

In accordance with Section 6738 of the California Code of Regulations, I examined the employee listed above. For the employee named above, there is no current medical contraindication to wearing a respirator while working in potential pesticide exposure environments.

Other Comments: _____

(Printed Physician's Name)

(Physician's Signature)

(Date)